

**PATENT COOPERATION TREATY**  
**PCT**  
**INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY**  
(Chapter II of the Patent Cooperation Treaty)  
(PCT Article 36 and Rule 70)

Applicant's or agent's file reference <b>12467630</b>	<b>FOR FURTHER ACTION</b>	See Form PCT/IPEA/416
International application No. <b>PCT/AU2005/000054</b>	International filing date ( <i>day/month/year</i> ) <b>18 January 2005</b>	Priority date ( <i>day/month/year</i> ) <b>1 April 2004</b>
International Patent Classification (IPC) or national classification and IPC  <div style="display: flex; justify-content: space-around;"> <span>Int. Cl.</span> </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <span><b>G06F 19/00</b> (2006.01)</span> <span><b>G06F 17/30</b> (2006.01)</span> <span><b>G06Q 50/00</b> (2006.01)</span> </div>		
Applicant <b>PIPERCOVE SOFTWARE PTY LTD et al</b>		

<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <b>3</b> sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p style="margin-left: 20px;">a. <input checked="" type="checkbox"/> (<i>sent to the applicant and to the International Bureau</i>) a total of <b>6</b> sheets, as follows:</p> <div style="margin-left: 40px;"> <p><input checked="" type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> </div> <p style="margin-left: 20px;">b. <input type="checkbox"/> (<i>sent to the International Bureau only</i>) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or table related thereto, in electronic form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>	<p>4. This report contains indications relating to the following items:</p> <div style="margin-left: 20px;"> <p><input checked="" type="checkbox"/> Box No. I      Basis of the report</p> <p><input type="checkbox"/> Box No. II      Priority</p> <p><input type="checkbox"/> Box No. III      Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV      Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V      Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI      Certain documents cited</p> <p><input type="checkbox"/> Box No. VII      Certain defects in the international application</p> <p><input type="checkbox"/> Box No. VIII      Certain observations on the international application</p> </div>
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Date of submission of the demand <b>10 January 2006</b>	Date of completion of this report <b>24 March 2006</b>
Name and mailing address of the IPEA/AU <b>AUSTRALIAN PATENT OFFICE</b> <b>PO BOX 200, WODEN ACT 2606, AUSTRALIA</b> E-mail address: <b>pct@ipaaustralia.gov.au</b> Facsimile No. <b>(02) 6285 3929</b>	Authorized Officer  <b>CHARLES BERKO</b> Telephone No. <b>(02) 6283 2169</b>

**Box No. I**      **Basis of the report**

1. ☒ **V** regard to the **language**, this report is based on:
- ☒ The international application in the language in which it was filed
- ☐ A translation of the international application into \_\_\_\_\_, which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3(a) and 23.1 (b))
- ☐ publication of the international application (under Rule 12.4(a))
- ☐ international preliminary examination (Rules 55.2(a) and/or 55.3(a))
2. With regard to the **elements** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:
- ☐ the international application as originally filed/furnished
- ☒ the description:
- pages **1, 3-17** as originally filed/furnished
- pages\* received by this Authority on \_\_\_\_\_ with the letter of \_\_\_\_\_
- pages\* **2, 2A** received by this Authority on **10 March 2006** with the letter of **same date**
- ☒ the claims:
- pages \_\_\_\_\_ as originally filed/furnished
- pages\* \_\_\_\_\_ as amended (together with any statement) under Article 19
- pages\* **18- 21** received by this Authority on **10 March 2006** with the letter of **same date**
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_ with the letter of \_\_\_\_\_
- ☒ the drawings:
- pages **1-40** as originally filed/furnished
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_ with the letter of \_\_\_\_\_
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_ with the letter of \_\_\_\_\_
- ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing.
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, Nos. \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (*specify*): \_\_\_\_\_
- ☐ any table(s) related to the sequence listing (*specify*): \_\_\_\_\_
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, Nos. \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (*specify*): \_\_\_\_\_
- ☐ any table(s) related to the sequence listing (*specify*): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

**Box No. V** Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

## 1. Statement

Novelty (N)	Claims 1-24	YES
	Claims	NO
Inventive step (IS)	Claims 1-24	YES
	Claims	NO
Industrial applicability (IA)	Claims 1-24	YES
	Claims	NO

## 2. Citations and explanations (Rule 70.7)

Relevant documents cited in search report:

US 6067548

CA 2323268

WO 2000/067118

NOVELTY (N) & INVENTIVE STEP (IS). Claims 1-24

None of the citations individually or in any combination as would be obvious to person skilled in the art discloses a method/system for integration systems engineering and project management having all the combination of integers/features of the claimed invention. In particular, none of the documents teach or suggest creation of an information model of the system by selectively and individually linking component parts and life cycle activities of the system with tasks, resources, time and cost associated therewith, and update thereof, as claimed.

- 2 -

It is therefore highly desirable to seamlessly add systems engineering capabilities into project management software to thereby provide engineers and project managers with an integrated set of tools for total-cycle management of large, complex systems.

## 5 SUMMARY OF THE INVENTION

According to the present invention, there is provided a method for integrating systems engineering and project management tools, the method including the steps of:

- obtaining component parts and life cycle activities of a system;
- 10 creating an information model of the system by selectively and individually linking component parts and life cycle activities of the system with tasks, resources, time and costs associated with the system;
- updating the system information model by selectively and individually adding or modifying component parts, life cycle activities, tasks, resources, time, costs and links
- 15 therebetween;
- storing versions of the system information model;
- processing versions of the system information model into end-user information to enable life cycle analysis of the system.

- 20 The present invention also provides computer software for integrating systems engineering and project management tools, the computer software residing on a computer-readable medium and including instructions for causing a computer to perform the following operations:

- obtain component parts and life cycle activities of a system;
- 25 create an information model of the system by selectively and individually linking component parts and life cycle activities of the system with tasks, resources, time and costs associated with the system;
- update the system information model by selectively and individually adding or modifying component parts, life cycle activities, tasks, resources, time, costs and links
- 30 therebetween;
- store versions of the system information model;

- 2A -

process versions of the system information model into end-user information to enable life cycle analysis of the system.

- 18 -

## THE CLAIMS:

1. A method for integrating systems engineering and project management tools, the method including the steps of:
  - 5 obtaining component parts and life cycle activities of a system;  
creating an information model of the system by selectively and individually linking component parts and life cycle activities of the system with tasks, resources, time and costs associated with the system;  
updating the system information model by selectively and individually adding or  
10 modifying component parts, life cycle activities, tasks, resources, time, costs and links therebetween;  
storing versions of the system information model;  
processing versions of the system information model into end-user information to enable life cycle analysis of the system.
- 15 2. A method according to claim 1, wherein the method is implemented as an add-in or plug-in to a project management application.
3. A method according to claim 2, wherein the project management application is at  
20 least one of Microsoft Project™, Artemis® and Primavera®.
4. A method according to claim 2 or 3, wherein the system information model accesses tasks, resources, time and costs from the project management application.
- 25 5. A method according to any preceding claim, wherein the system information model includes at least one of parts, activities, tasks, resources, time, costs and phases relating to at least one of requirements, definition, design, development, manufacturing, testing, deployment, operating, support, environmental impact, sustainability and decommissioning of the system.

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- 19 -

6. A method according to any preceding claim, wherein the system information model and the end-user information are created and manipulated using libraries and templates.
7. A method according to claim 6, wherein the libraries and the templates are stored in  
5 files or a relational database.
8. A method according to claim 6 or 7, wherein the libraries include information relating to component parts, tasks, resources and life cycle activities of systems.
- 10 9. A method according to any one of claims 6 to 8, wherein the templates are expressed in eXtensible Markup Language (XML).
10. A method according to any preceding claim, wherein the step of processing versions of the system information model includes comparing different versions to provide  
15 traceability between iterations of the system over the life cycle.
11. A method according to any preceding claim, wherein the end-user information to enable analysis of the system over the life cycle includes information relating to at least one of systems engineering, project management, risk management, life cycle cost, life  
20 cycle assessment, environmental impact and system activities of the system project.
12. Computer software for integrating systems engineering and project management tools, the computer software residing on a computer-readable medium and including instructions for causing a computer to perform the following operations:
- 25 obtain component parts and life cycle activities of a system;  
create an information model of the system by selectively and individually linking component parts and life cycle activities of the system with tasks, resources, time and costs associated with the system;  
update the system information model by selectively and individually adding or  
30 modifying component parts, life cycle activities, tasks, resources, time, costs and links therebetween;

- 20 -

store versions of the system information model;  
process versions of the system information model into end-user information to enable life cycle analysis of the system.

- 5 13. Computer software according to claim 12, wherein the computer software is an add-in or plug-in to a project management application.
14. Computer software according to claim 13, wherein the project management application is at least one of Microsoft Project™, Artemis® and Primavera®.
- 10 15. Computer software according to claim 13 or 14, wherein the system information model accesses tasks, resources, time and costs from the project management application.
16. Computer software according to any one of claims 12 to 15, wherein the system  
15 information model includes at least one of parts, activities, tasks, resources, time, costs and phases relating to at least one of requirements, definition, design, development, manufacturing, testing, deployment, operating, support, environmental impact, sustainability and decommissioning of the system.
- 20 17. Computer software according to any one of claims 12 to 16, wherein the system information model and the end-user information are created and manipulated using libraries and templates.
18. Computer software according to claim 17, wherein the libraries and the templates  
25 are stored in files or a relational database.
19. Computer software according to claim 17 or 18, wherein the libraries include information relating to component parts, tasks, resources and life cycle activities of  
30 systems.



- 21 -

20. Computer software according to any one of claims 17 to 19, wherein the templates are expressed in eXtensible Markup Language (XML).

21. Computer software according to any one of claims 12 to 20, wherein the step of  
5 processing versions of the system information model includes comparing different versions to provide traceability between iterations of the system over the life cycle.

22. Computer software according to any one of claims 12 to 21, wherein the end-user information to enable analysis of the system over the life cycle includes information  
10 relating to at least one of systems engineering, project management, risk management, life cycle cost, life cycle assessment, environmental impact and system activities of the system project.

23. A method for integrating systems engineering and project management tools,  
15 substantially as hereinbefore described with reference to the accompanying drawings.

24. Computer software for integrating systems engineering and project management tools, substantially as hereinbefore described with reference to the accompanying drawings.

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DATED this 10th day of March, 2006

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